

Application Serial No. 10/583,018
Reply to Office Action of January 5, 2009

PATENT
Docket: CU-4878

Amendments to the Claims

The listing of claims presented below replaces all prior versions, and listings, of claims in the application.

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Listing of claims:

1-2. (Canceled)

3. (Previously Amended) An organic functional element comprising at least a plurality of electrodes and an organic material layer, wherein at least one of the electrodes is composed of a metal having a melting point of 70°C or higher to 160°C or lower, and wherein the metal constituting the electrode is an alloy of Bi and at least one kind of other metals.

4. (Canceled)

5. (Previously Presented) The organic functional element according to claim 3, wherein a Bi component in the metal constituting the electrode is greater than that of at least one kind of other metals.

6. (Previously Presented) The organic functional element according to claim 3, wherein the metal constituting the electrode is an alloy composed of Bi and one, two, three, four or five kinds of metals selected from a group composed of Sn, Pb, Cd, Sb and In.

7. (Previously Presented) The organic functional element according to claim 3, wherein the metal constituting the electrode is an alloy of Sn and Bi, and a Sn component is greater than a Bi component.

8 -15. (Canceled)

16. (Previously Presented) The organic functional element according to claim 3, wherein a gap made between the organic material layer and a base material having a concave part opposite to the organic material layer is filled and formed with the metal.

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17. (Previously Presented) The organic functional element according to claim 16, wherein the gap has one or more opening parts, and the opening parts are sealed with a hardened metal.

18. (Withdrawn) A method for manufacturing an organic functional element comprising the steps:

providing at least a plurality of electrodes and an organic material layer, wherein at least one of the electrodes is composed of a metal having a melting point of 70°C or higher to 160°C or lower,
coating the organic material layer with a particle paste of the metal constituting the at least one of the electrodes, and
melting and cooling the particle paste to form the electrode.

19. (Withdrawn) A method for manufacturing an organic functional element comprising the steps:

providing at least a plurality of electrodes and an organic material layer, wherein at least one of the electrodes is composed of a metal having a melting point of 70°C or higher to 160°C or lower,
pressing the at least one melted electrode maintained in the base material having a concave part against a substrate having the organic material layer formed thereon, such that the organic material layer is contacted with the metal, and
transferring the metal to the organic material layer and cooling it to form the electrode.

20. (Withdrawn) The method for manufacturing the organic functional element comprising the steps:

providing at least a plurality of electrodes and an organic material layer, wherein at least one of the electrodes is composed of a metal having a melting point of 70°C or higher to 160°C or lower,
providing a gap with one or more opening parts between the organic material layer and a base material having a concave part opposite to the organic material layer,

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melting the metal constituting the at least one of the electrodes,
injecting the molten metal constituting the at least one of the electrodes
through the opening part into the gap, and
cooling the molten metal constituting the at least one of the electrodes to form
the electrode.

21. (Withdrawn) The method according to claim 20, further comprising a vacuum
injection method composed of arranging the metal in the opening part, evacuating
the gap and its surrounding predetermined space, and opening the surrounding
space onto air in this order is carried out to inject the metal into the gap and thereby
forming the electrode.

22. (Withdrawn) The method according to claim 21, further comprising the steps of
arranging the metal in the opening part and suctioning a gas in the gap through
another opening part not provided with the metal to inject the metal into the gap and
thereby form the electrode.

23. (Withdrawn) The method according to claim 22, wherein a formation of the
electrode by the vacuum injection method into the gap or a formation of the electrode
by the suction of the gas in the gap is carried out in an inert gas.

24. (Withdrawn) The method according to claim 23, wherein the inert gas is
nitrogen, argon, or a mixed gas of nitrogen and argon.

25. (Withdrawn) The method according to claim 20, further comprising the step of
sealing the base material having the concave part with the opening part by cooling
and hardening a molten metal.

26. (Withdrawn) The method according to claim 19, further comprising the step of
forming the electrode in a predetermined form depending on a shape of the concave
part and a gap.

27. (Withdrawn) The method according to claim 26, wherein the concave part and

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the gap have a plurality of striped shapes.

28. (Withdrawn) The method according to claim 19, further comprising the step of forming the base material having the concave part of one kind of member selected from a group composed of a glass, a metal, a ceramic and a resin, or a composite material of two or more thereof.

29. (Previously Presented) An organic functional element having the electrode of claim 3, wherein the organic functional element is an organic EL element.

30. (Previously Amended) The organic EL element according to claim 29, wherein the electrode is a cathode.

31. (Canceled)

32. (Previously Presented) An organic semiconductor element having the electrode of claim 3, wherein the organic functional element is an organic semiconductor element.

33. (Canceled)

34. (Previously Presented) An organic TFT element having the electrode of claim 3, wherein the organic functional element is an organic TFT element.

35. (Canceled)